Chapter 7 Review

Problem 1: The blood types of 415 people are collected at a doctor's office. The table shows the breakdown of patients per blood type.

Blood Type	Number of Patients
A	125
B	115
O	130
AB	45
Total	415

a) If a person from this group is selected at random, what is the probability that this person has type O blood?

b) How many people are in the complement of AB?

Problem 2: A box of silverware contains 13 forks (F), 15 spoons (S) and 8 knives (K).

a) If you reach in and randomly grab one item, find the probability it is either fork or knife.

b) If you randomly grab two items in succession without replacement, find the probability you get a spoon and then a knife.

c) Suppose you randomly grab one item, replace it, and grab another. Find the probability you get a two spoons.

Problem 3: 8 junior high classes will be chosen to participate in a school improvement survey. There are 21 junior high classes in the school. In how many ways can the classes be chosen?

Problem 4: Suppose that 5% of the time Todd goes to the movies twice a week, 15% of the time he goes to the movies once a week, and 80% of the time he doesn't go to the movies at all in a given week.

a) What is the expected value for the number of times Todd goes to the movies during a week?

b) What is the expected value for the number of times Todd goes to the movies in 3 weeks?

Problem 5: An experiment is performed where a 3-color spinner is spun and then a 3-sided die is rolled. The possible outcomes for the spinner are red (R), blue (B), and yellow (Y) and for roll of the die are {1, 2, 3}. Identify the sample space for this experiment.

Problem 6: Passwords for your iPhone require 6 characters. If the first three must be digits 0-9 and the last three must be lowercase letters a-z, how many different passwords can you make?

Problem 7: A high school is forming a new club. The students interested in the club include: 5 freshman, 9 sophomores, 7 juniors and 8 seniors. If 4 students are to be selected to join the club, find the probability all four are sophomores.

Problem 8: Enrollment data for a large lecture class is shown in the table below.

	Male	Female	Total
Freshman	19	13	32
Sophomore	14	16	30
Junior	11	14	25
Senior	18	7	25
Total	62	50	112

a) Find the probability a randomly selected student is a Male.

b) Find the probability a randomly selected student is a Junior.

c) Find the probability a randomly selected student is a Female and a Senior.

d) Find the probability a randomly selected student is a Male and a Junior.

e) Find the probability a randomly selected student Female or a Junior.

f) Find the probability a randomly selected student Freshman or a Male.

g) Find the probability a randomly selected student a Female given they are a Freshman.

h) Find the probability a randomly selected student is a Senior given they are Male.

Problem 9: Suppose the probability of a dog winning a ribbon at the dog show is 0.75.

a) What are the odds of winning? Express your answer in the form a:b.

b) What are the odds of losing? Express your answer in the form a:b.

Problem 10: There are 22 students in a kindergarten class. If each kindergartner can have only one task, in how many ways can the teacher assign out the following tasks: line leader, wipe down the tables, pass out papers, water the plants?